Remarks

Applicant would like to thank the Examiner for the careful consideration given the present application.

The previous claims were provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 7-10 of copending Application No. 10/359,343. A Terminal Disclaimer is being filed herewith. As such, this rejection is now moot and it is requested that the rejection be withdrawn.

Turning to the new claims, it is respectfully submitted that the new claims are allowable.

Independent claim 6 relates to a method for producing a casting. However, the Japanese reference 4198460 (JP'460) does not disclose a method for producing a casting. JP'460 discloses only a method for producing a forging. Therefore, the combination between JP'460 and the Brazilian reference (BR'356) citation or the Japanese reference 09041056 (JP'056) does not achieve the method for producing a casting of claim 6.

In addition, the object of JP'460 is to provide a forging having high strength by improving decrease of thermal conductivity. The object of BR'356 is to provide memory alloys used at a temperature of more than 200°C. The object of JP'056 is to provide motor commutator material having wear resistance and small in the generation of arcs. The objects of JP'460 and BR'356, and JP'056 are completely different. In addition, there is no motivation for combining these citations. Specifically, the reasoning or rationales behind the materials would not lead a person of ordinary skill in the art to merely change materials associated with one process merely for the sake of change. The teachings provided by the three references do not lead a person to make the proposed changes. It should be clear that the unconventional use of the materials does not align with the generic assertion that conventional materials are used in a conventional process. Such a shortsightedness presumes the invention itself.

In order to obtain a further appreciation of the presented situation, consider the example that the alloy of BR'356 comprises essentially Al. When such Al alloy is used, the unique effects of the production method of claim 6 cannot be obtained and thus there is no logical reason to proceed. When an Al alloy is used in the method for producing a casting of claim 6, the resulting pieces will have low thermal conductivity. This is clear from the results of Experiment 7 presented with a declaration under CFR §1.132, which was submitted within the parent application.

Accordingly, it is respectively submitted that the person of ordinary skill would not have considered it obvious to combine the teachings from the three references. In short, there are just too many aspects that would dissuade the person of ordinary skill in the art.

With regard to independent claim 8, the claim recites a method for producing a forging that has the following steps:

1. providing a molten bath;
2. casting the molten bath to produce a solidified article;
3. forming the solidified article into a predetermined shape; and
4. precipitation strengthening the article by aging for precipitation and forgoing or rolling.

In contrast, JP'460 discloses on page 6 that the method for producing a forging comprising the steps of:

1. The copper plate having an arbitrary cross-sectional shape by hot forging (or hot rolling) in a temperature range from 800 to 900^{0}C.
2. The copper plate is heated and cooled at 1,000^{0}C (solution treatment).
3. 2 to 50% (preferably 30%) of the cross-sectional area of the copper plate is decreased at 500^{0}C (warm forging or warm rolling), and preferably at room temperature (warm forging or warm rolling).
4. The copper plate is heat cooled at 500^{0}C (aging treatment).
5. After that, 2 to 50%(and preferably 30%) of the cross-sectional area of the copper plate is decreased again at 500^{0}C (warm

forging or warm rolling), and preferably at room temperature (warm forging or warm rolling).

The following table shows the difference between the steps of claim 8 and JP'460.

Claim 8	JP'460
1: providing a molten bath	(1): hot forging (2): solution heat treatment
2: casting	
3: forming a predetermined shape	(3): worm forging or warm rolling
4: precipitation strengthening by aging + forging or rolling	(4): aging treatment (5): warm forging or warm rolling

In general, in order to precipitation strengthen by aging, it is necessary to make a solid solution in which excess amount of strengthening elements are dissolved in a matrix (that is, strengthening elements are super saturates in the matrix), and then rapidly cool the solid solution. In other words, in order to precipitation strengthen by aging it is necessary to conduct a solution heat treatment. In fact, a solution heat treatment (2) is carried out in JP'460. In general, in order to precipitation strengthen by aging, material is heated to high temperatures, the high temperature is maintained for a certain time, and rapidly cooled so as not to deposit strengthening elements (that is, subjected to a solution heat treatment).

In contrast, the method of claim 8 does not require a solution treatment. In the method of claim 8, casting is carried out instead of a solution heat treatment. That is, JP'460 does not disclose or even lead to a production method of claim 8.

One effect of the production method fo claim 8 is omitting a solution heat treatment which is essential for aging. This effect can be yielded by using a molten bath comprising a specific composition. Specifically, the molten bath used in the present invention comprises Ag as a main strengthening element. A solid solution temperature of Ag is low and an aging temperature is also low. Therefore, when the molten bath is cooled with a cooling rate in casting, Ag is not deposited and still dissolved. Due to this, it is possible to replace a solution heat treatment with casting. In contrast, Cr-Zr-Cu alloy, which is used in JP'056, comprises Cr as a main

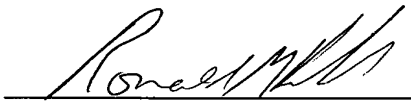
strengthening element. Cr has higher solid solution temperature and aging temperature than those of Ag. In order to conduct the solution heat treatment of Cr-Zr-Cu alloy, it is necessary to rapidly cool from about 1,000^{0}C. If a molten bath comprising Cr-Zr-Cu alloy is subjected to casting instead of a solution heat treatment, since the alloy is surrounded by the casting die, the alloy is not sufficiently cooled, and Cr is not dissolved and deposited.

In summary, the combination between JP'460 and BR'356 or JP'056 does not achieve the production method of claim 8. The production method fo claim 8 has unique effects which are not yielded by JP'460, BR'356 and JP'056.

In light of the foregoing, it is respectfully submitted that the present application is in a condition for allowance and notice to that effect is hereby requested. If it is determined that the application is not in a condition for allowance, the Examiner is invited to initiate a telephone interview with the undersigned attorney to expedite prosecution of the present application.

If there are any additional fees resulting from this communication, please charge same to our Deposit Account No. 16-0820, our Order No. 33394US1.

Respectfully submitted,
PEARNE & GORDON LLP

By: 

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